



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 413,774	10 07 1999	NOBUHIRO ITO	35.C14055	2413

5514 7590 11 18 2002

FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
----------	--------------

2879

DATE MAILED: 11/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/413,774

Applicant(s)

ITO ET AL.

Examiner

Sikha Roy

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 02 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-48 and 56-92 is/are allowed.
- 6) ☐ Claim(s) 49-55, 93 and 94 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 07 October 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 2, 2002 has been entered.

The Amendment, filed on August 12, 2002 has been entered and overcomes the rejection of claims 28,29,36,46-48 under 35 U.S.C. § 112, second paragraph and claims 86,92 under 35 U.S.C. § 102(e). Cancellation of claim 85 and addition of new claims 93 and 94 have been entered.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 112***

Claims 49-55,93 and 94 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the uneven geometry on the part of the surface of first member, does not reasonably provide enablement for the first member. Regarding claims 49,50,51,93 and 94 the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The first member within an electron beam apparatus can be any structure having uneven

Art Unit: 2879

geometry and hence does not reasonably provide its enablement commensurating with the scope of the claims.

Claims 52-54 are rejected being dependent on rejected claims 49,50 and 51 respectively. Claim 55 is rejected being dependent on any one of rejected claims 49, 50 and 51.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 49-54 and 93,94 rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent 4,181,870 to Stevens.

Referring to claims 49 and 52 Stevens discloses (column 3 lines 13-35, column 5 lines 10-14 Figs. 1 and 3) an electron beam apparatus (color picture tube) comprising a hermetic container (glass funnel) 4 which includes an electron source (electron guns 54,56,58) having electron emission devices and targets (faceplate having phosphors coated inside) exposed to electrons emitted from the source and further comprising first members (wide bead 50) in which pair of widely spaced claws from each of the electrodes 26,28,32,34,36 are embedded. The first member having embedded claws is provided with an uneven geometry at least on a part of its surface and the uneven geometry is arranged at random and in two directions on the surface.

Regarding claim 50 the first member (wide glass bead 50) having embedded claws is provided with an uneven geometry at least on a part of its surface and the uneven geometry constituting amplitudes of two kinds of unevenness.

Regarding claim 51 the first member (wide glass bead 50) having embedded claws is provided with an uneven geometry at least on a part of its surface and the uneven geometry constituting of cycles periods of at least two kinds of unevenness.

Regarding claims 53 and 54 the claws holding the electrodes being embedded in the first member (glass bead 50) constitute a random unevenness and hence will provide random amplitudes or cycle periods of the uneven geometry.

Claim 93 essentially recites the same limitation as of claim 51 and hence is rejected for the same reason.

Claim 94 essentially recites the same limitation of claims 49 and 52 and hence is rejected for the same reason.

#### ***Allowable Subject Matter***

Claims 1-25, 26-42, 43-48, 56-84, 86-92 are allowed over the prior art of record.

The following is the examiner's statement of reason for allowance.

Regarding claims 1, 43-48, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 1, and specifically comprising the limitation of an electron beam apparatus having the value of incident angle multiplication coefficient of secondary electron emission coefficient  $m_0$  being equal to or less than 10.

Regarding claims 2-25, claims 2-25 are allowable for the reasons given in claim 1 because of their dependency status from claim 1.

Regarding claims 56-77, claims 56-77 are allowable for the reasons given in claim 43 because of their dependency status from claim 43.

Regarding claim 26, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 26, and specifically comprising the limitation of an electron beam apparatus having a first member with an uneven geometry and a deposited film on its surface, the thickness of the film being smaller than the top and lowest portions of the uneven geometry.

Regarding claims 78-84 claims 78-84 are allowable for the reasons given in claim 26 because of their dependency status from claim 26.

Regarding claim 27, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 27, and specifically comprising the limitation of a spacer having the value of incident angle multiplication coefficient of secondary electron emission coefficient  $m_0$  being equal to or less than 10.

Claims 28-42 are allowable for the reasons given in claim 27 because of their dependency status from claim 27

Regarding claim 91, the prior art of record neither teaches nor suggests an electron beam apparatus with all the claimed limitations particularly the height of the fine unevenness of the spacer-surface having a value in the range  $.05\mu\text{m} \leq R_{\text{max}} \leq 10\mu\text{m}$ .

Claims 86-90 and 92 are allowable for the reasons given in claim 91 because of their dependency status from claim 91.

Art Unit: 2879

Claim 55 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Regarding claim 55, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 55, and specifically comprising the limitation of a first member with uneven geometry at least on a part of its surface having roughing film.

### ***Response to Argument***


Applicant's arguments with respect to claims 49-51 have been considered but are moot in view of the new ground(s) of rejection.


### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956

  
Sikha Roy  
Patent Examiner  
Art Unit 2879

  
Nimeshkumar D. Patel  
Primary Examiner